

Tempe Fire Department Policies and Procedures
Personal Safety Lines
205.03
Rev 10-27-97

DESCRIPTION OF EQUIPMENT

The personal safety line system consists of the following items:

1. Thirty feet of Aracom FOP 3/16" rope. This rope is very flexible. It is double braided Dacron over Kevlar. The Dacron affords excellent resistance to abrasions providing maximum protection of the Kevlar. This rope is able to withstand a high degree of heat without loss of strength. It is rated at 4,000 lbs.
2. Two aluminum alloy locking carabiners rated at approximately 5000 lbs. in the locked position.
3. One Nomex rope pouch.

The knot selected to attach the rope to the carabiners is a water knot that locks back on itself for added strength. The rope ends are then secured by a metal clip. This complete system is attached to the right waist strap of each SCBA.

LOADING THE POUCH

Correct loading will insure that the rope will feed out without tangles and be easily accessible. Start by attaching one carbiner to the SCBA harness at the back pack. Then load the rope similar to the way you would a rope bag, by stuffing the rope back and forth in the pouch until you reach the carbiner at the other end. Attach this carbiner to the first carabiner on the harness. Now close the velcro around the ropes. To use, just reach around and unclip the carabiner attached to the one on the harness and the rope will feed out of the pouch.

Note: If in a situation (flashover for example) that requires you to escape from the rope, you should be able to undo the carabiner from the harness with your right, gloved hand. This requires some practice.

BASIC USE OF SYSTEM

This system was designed as a safety line not a lifeline or rescue line, and does not meet NFPA standards as such. However, enough strength has been built into the system that it could be used as such, but only in extreme emergency situations (see PP 205.04 for emergency use with personal strap). Two basic ideas on use during search and rescue operations are as follows:

1. When working in large open warehouse-type structure, from a hose line or other type of guide rope, the safety line can be wrapped around hose or line and locked back on itself by use of carabiner. A search can now be made away from the point. If you find a longer rope is needed, two or more safety lines can be attached together to cover a greater area. Thus, you and your crew would always be able to return to your starting point, whether it be a hose line or guide rope and then follow that back outside the building.
2. If a large building has interior compartmentalizations such as a fenced off area or many rooms within the building, your safety line can be attached to the entrance to these areas and entry can then be made into these areas safely oriented. Again, for greater distance than thirty feet, use more than one safety line attached together.

****IMPORTANT NOTE**** It is recommended that the running end of the rope always be attached to the harness on your SCBA. This will prevent you from dropping or losing the end of the rope and then being unable to find the end again because of bad visibility.

There are many other arrangements that this safety line could be useful for. At the company level, other

techniques can be developed, practiced, then implemented. Your imagination is your only limit to the usefulness of this personal safety line system.

SAFETY CONSIDERATIONS

This is not a rescue line or lifeline.

Each system should be inspected at the start of shift. If any damage is found to the equipment, the system should be removed from service, repair tagged, and sent to SCBA repair. A replacement will be sent to you while the other is being repaired.

On a quarterly basis, this system will be inspected for wear and tear by SCBA maintenance personnel.

The Kevlar Safety Line with attached carabiners can be used to hoist small tools. The knots used employ the carabiner and are depicted below.

The clove hitch is tied by making one half hitch as shown, then bring the carabiner around the object and clip it back on the line for the second half hitch. (Figure 1)

Most tools will require another half hitch up from the clove hitch in the direction of the hoist. Usually you can just make a loop and flip it over the end of the tool. If you can't, tie the half hitch first. (Figure 2)

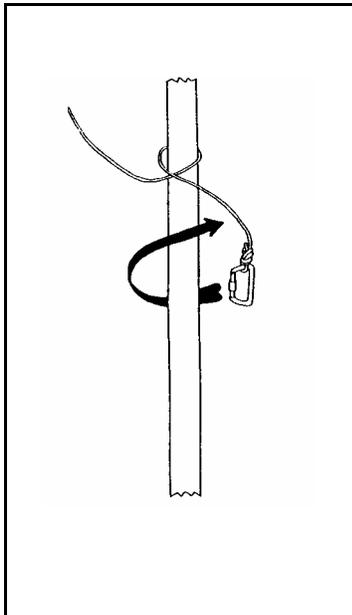


Figure 1

The pike pole should have the point up. (Figure 3)

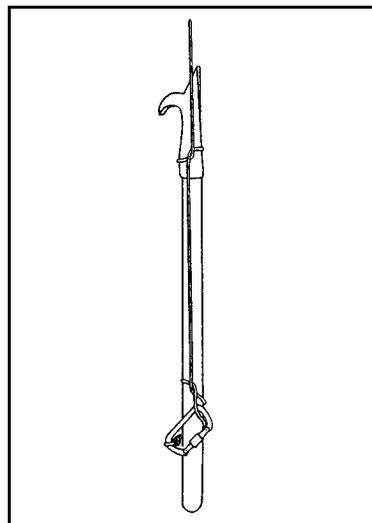


Figure 3

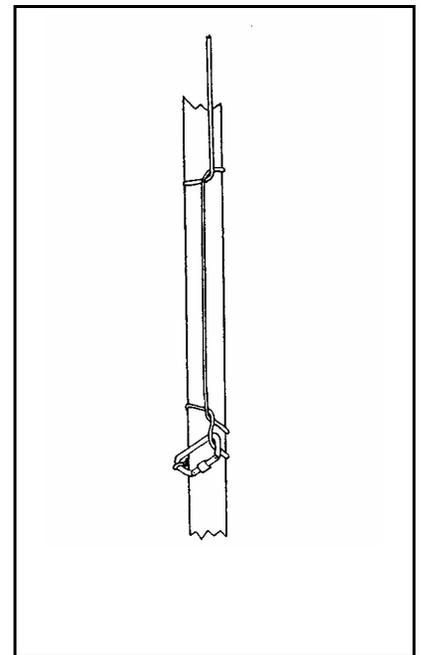


Figure 2

Because of the size of the Kevlar line, a small handline should be hoisted uncharged for less weight. When the last half hitch is flipped over the end of the nozzle pass it under the bail so the weight will keep the bail closed during hoisting. (Figure 4)

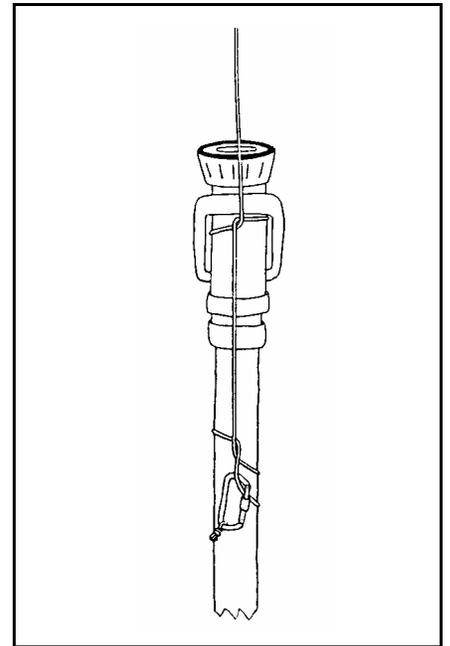


Figure 4

The haligan does not require the carabiner to be clipped back on the line. Just make your half hitch and place the carabiner over the point. The half hitch should be close enough to the carabiner to hold it in place. (Figure 5)

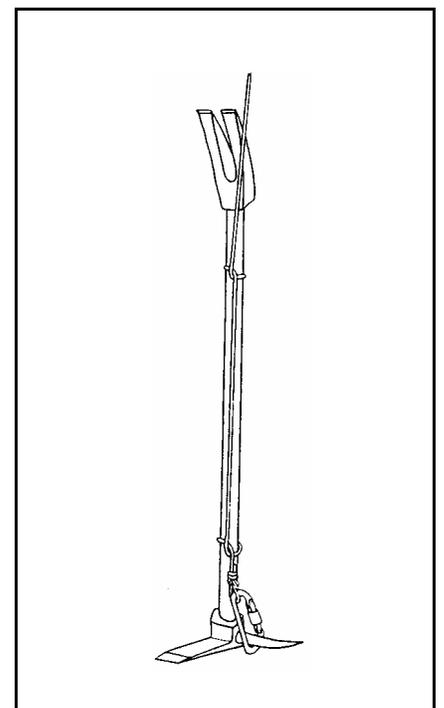


Figure 5

The axe hitch is tied by placing the axe on the Kevlar line, holding the standing (hoisting) part against the handle. Now pass the line around the handle and the standing part and clip the carabiner back to the line. Last, make a loop in the standing part and flip it over the handle for a half hitch. (Figure 6)

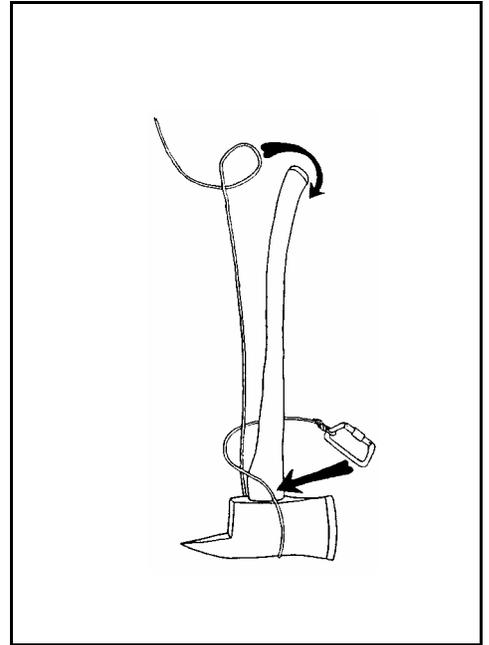


Figure 6

When pulled tight this is a good hoisting hitch for the axe, sledge hammer, or other "T" shaped tools. (Figure 7)

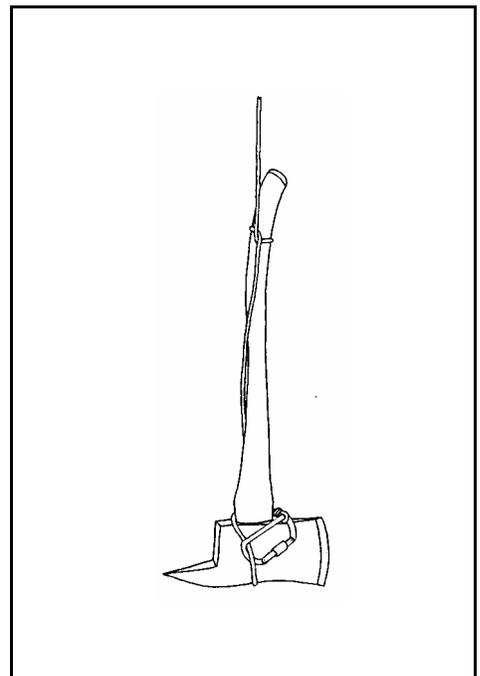


Figure 7